

## **ABSTRACT**

A thin film transistor (TFT) and a manufacturing method thereof are provided. The thin film transistor (TFT) comprises a substrate, a gate, an inter-gate dielectric layer, a channel layer and source/drain regions. A gate is formed over the substrate. An inter-gate dielectric layer is formed over the substrate covering the gate. A doped amorphous silicon layer is formed over a portion of the inter-gate dielectric layer at least covering the gate to serve as channel layer. Next, source/drain regions are formed over the channel layer.